

TRAINING RESOURCE OPTIMISATION - THE PROCESSES OF MANAGING CHANGE

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Abstract. Managing the process of continual improvement is a difficult challenge for any business. When training management is viewed as a business centre, managers must also continuously balance the available resources and budget while meeting training requirements. Typical process reengineering allows for the process to be reorganised to meet new technologies or efficiencies. Training cycles though, may not allow for re-engineering of the process due to fixed criteria and parallel training programs; yet process modelling can help optimise this “business centre” as well. The key for using Process Modelling is the overall effort’s orientation and the scope or macro view of the contributing factors and constraints. With the emergence of alternative training delivery methods, the effective analysis of the impact to the overall training cycle is crucial to making effective decisions about equipment, facilities, instructional materials and trainers. The impact of taking students from their jobs must also be assessed given other alternatives. Often, quick fixes simply move the problem around. Process Modelling oriented at the training resource issue can effectively provide information on student throughput, required resources, cost analysis and projected economic data to help justify the change. Sensitivity analysis allows for the overall process to be examined for “what-if” scenarios. Ultimately, the acceptance and use of Training Resource Allocation Modelling (TRAM) in support of Business Process Reengineering (BPR) techniques will leave a continuous improvement legacy process for future training managers.

INTRODUCTION

Training programs, regardless of their instructional paradigm, must try to optimise their available resources while meeting training demand. To embrace the concept of continuous upgrade or optimisation requires the introduction of both a tool set and governing processes.

Over the last few decades, many different approaches have emerged to the effective management of change with respect to continuous improvement. At the heart of the different approaches were their basic orientations. During the 1980s Total Quality Management (TQM) and Continuous Process Improvement (CPI) philosophically embraced customer involvement as a way to transform user-unfriendly systems and environments into efficient yet customer-oriented processes. Many of the techniques such as Quality Circles, Concurrent Engineering Teams, Cross-functional Teams, Joint Technical Interface Teams, and Collaborative Partnership Teams all focused on human interaction to optimise processes. Thus TQM and CPI were more able to deal with interaction issues rather than fundamental process problems [1]. Also, many of these approaches dealt with qualitative aspects that made improvement difficult to measure let alone empirically monitor. The current re-emergence of the return to bottom-line optimisation has seen a drastic departure from customer satisfaction to stockholder commitment.

Whereas, TQM and CPI were the philosophical base for the 1980s and early to mid 1990s, Business Processes Reengineering (BPR) has emerged as an analytical paradigm for measuring the cause and effect existing processes of strategies, changes, and technology infusion. Yet in reality, until BPR itself adopted the use of simulation-based analysis, BPR itself fell short of the promised goal to re-invent business. Due to the tool set initially used by BPR practitioners, BPR programs could only deal with a limited set of issues over a small percentage of the business enterprise. Embedded within successful BPR programs of today are simulation tools that provide the broader-based quantitative analytical reference required to support decision

makers in their effort to chart the course for the next round of “improvement”.

While in actuality both TQM/CPI and BPR may look to improve the same process, each approach uses different criteria to define successful process improvement. Unfortunately, neither is the optimum solution given the exclusion of the other. As is the nature of opposing approaches, both TQM/CPI and BPR practitioners are now starting to realise that it through the combination of qualitative and quantitative solutions by which the bottom line can be impacted while the customer orientation is maintained. Currently, BPR enterprises are beginning to use discrete event simulation (DES) as the fundamental analysis tool. DES can capture existing processes and allow for the inclusion of change or “what-if” scenarios. Through the use of DES, process improvement can focus on both customer satisfaction as well as requirements or bottom line efficiency.

Currently, simulation techniques are being embraced to provide insight over a range of systems and problems especially in actual training environments such as computer-aided instruction, distance learning and Distributed Interactive Simulation (DIS) training systems. Interestingly though, simulation has been slow to be embraced as an alternative to other less-robust and less-accurate decision-support mechanisms within the training management community. Many reasons exist for this. At the heart of the matter are two basic issues: unfamiliarity with simulation-based analysis for BPR; and the perceived risk associated with departing from old analytical techniques and embracing new approaches. In essence the very problem the plagues updating any process also plagues the process improvement paradigms as well—risk and pragmatism.

This paper therefore focuses on both the use of simulation tools to support training management reengineering processes and the governing process that could be utilised to help the training community better plan to meet current needs and forecast future requirements.